

Personal Information

Email: altug@ktu.edu.tr

Web: <https://avesis.ktu.edu.tr/altug>

International Researcher IDs

ScholarID: WLOKeJIAAAAJ

ORCID: 0000-0003-0773-9548

Publons / Web Of Science ResearcherID: AAV-7168-2020

ScopusID: 57219238636

Yoksis Researcher ID: 264495



Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, -, Turkey 2019

- Continues

Postgraduate, Karadeniz Technical University, Makina Mühendisliği, Turkey 2016 - 2019

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, Makina Mühendisliği, Turkey 2010 - 2016

Certificates, Courses and Trainings

Occupational Health and Safety, Temel İş Sağlığı ve Güvenliği Eğitimi, Karadeniz Teknik Üniversitesi, 2022

Dissertations

Postgraduate, Seçici Lazer Ergitme Yöntemi ile Üretilmiş Mikro Kafes Yapıların Sonlu Elemanlar ile Modellenmesi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, -, 2019

Research Areas

Mechanical Engineering, Mechanical, Solid Mechanics, Finite Element Methods, Mechanical Testing, Engineering and Technology

Academic Titles / Tasks

Lecturer, Karadeniz Technical University, Rektörlük, Medikal Cihaz Tasarım ve Üretim Uygulama ve Araştırma Merkezi, 2021 - Continues

Research Assistant, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, 2017 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The Relationship Between Fiber Bundle Size and Mechanical Performance of Additively Manufactured Continuous Carbon Fiber Reinforced Thermoplastic Composites**
Vatandas B. B., UŞUN A., Guemruek R., Simsek C.
3D PRINTING AND ADDITIVE MANUFACTURING, vol.10, no.6, pp.1190-1203, 2023 (SCI-Expanded)
- II. **Effect of Plastic Deformation on the Mechanical Properties of Dual-Phase Steels Using Nanoindentation**
Ekmekci D., UŞUN A., CORA Ö. N.
JOM, vol.75, no.7, pp.2246-2255, 2023 (SCI-Expanded)
- III. **Additive manufacturing of PEEK-based continuous fiber reinforced thermoplastic composites with high mechanical properties**
Vatandas B. B., UŞUN A., Yıldız N., Simsek C., CORA Ö. N., ASLAN M., GÜMRÜK R.
COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING, vol.167, 2023 (SCI-Expanded)
- IV. **The mechanical performance of the 3D printed composites produced with continuous carbon fiber reinforced filaments obtained via melt impregnation**
UŞUN A., GÜMRÜK R.
ADDITIVE MANUFACTURING, vol.46, 2021 (SCI-Expanded)
- V. **Investigation of mechanical properties of electroless nickel plated micro-lattice structures**
Gümrük R., Uşun A.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.4, pp.1783-1798, 2020 (SCI-Expanded)

Articles Published in Other Journals

- I. **Improvement of the Working Volume and the Applications of Retractors Used in Surgical Operations**
Cinel A., Ipek H., Uşun A., Çava K., Aslan M.
Farabi Tıp Dergisi, vol.3, no.1, pp.14-23, 2024 (Peer-Reviewed Journal)
- II. **Examination of the influence of printing parameters for the continuous carbon fiber-reinforced thermoplastics based on fused deposition modeling**
Uşun A., Gümrük R., Yıldız N., Vatandaş B. B.
The International Journal of Materials and Engineering Technology, vol.5, no.2, pp.65-70, 2022 (Peer-Reviewed Journal)
- III. **Obtaining High Mechanical Properties Polyamide - Continuous Carbon Fiber Reinforced Thermoplastic Composites with Infrared Heating**
NERGÜN M., ÖNEL N., VATANDAŞ B. B., UŞUN A., GÜMRÜK R.
Avrupa Bilim ve Teknoloji Dergisi, pp.222-226, 2022 (Peer-Reviewed Journal)
- IV. **The Effect of Heat Treatments Applied to Continuous Fiber Reinforced Thermoplastic Composites on Mechanical Properties**
Vatandaş B. B., Gümrük R., Uşun A., Yıldız N.
Open Journal of Nano, vol.7, no.1, pp.10-17, 2022 (Peer-Reviewed Journal)
- V. **Investigating the effects of hot isostatic pressure heat treatment on mechanical properties of PLA based BCC lattices**
Kuleyin H., Uşun A., Gümrük R.
Selcuk University Journal of Engineering Sciences, vol.21, no.01, pp.15-19, 2022 (Peer-Reviewed Journal)
- VI. **Investigation of the Effects of Discontinuities on the Mechanical Properties of Micro Lattice Structures Produced by the Selective Laser Melting Method**
Uşun A., Gümrük R.
Journal of Investigations on Engineering and Technology, vol.3, no.2, pp.58-67, 2020 (Peer-Reviewed Journal)
- VII. **Enhancement of the Mechanical Performance of Stainless Steel Micro Lattice Structures Using**

Electroless Plated Nickel Coatings

Gümrük R., Uşun A., Mines R.

PROCEEDINGS (MDPI), vol.2, no.8, pp.494, 2018 (Non Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **PRODUCTION OF A PERSONALIZED MANDIBLE PROSTHESIS FROM CT IMAGES USING THE POWDER BED FUSION PROCESS METHOD**
Aksa H. C., Çava K., Uşun A., İpek H., Aslan M.
7th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2023, İstanbul, Turkey, 25 - 27 October 2023, pp.27
- II. **INVESTIGATION OF THE COMPRESSION BEHAVIOR OF THE ADDITIVELY MANUFACTURED GLASS-FIBER REINFORCED COMPOSITES VIA VAT-PHOTOPOLYMERIZATION**
Çava K., İpek H., Uşun A., Aksa H. C., Aslan M.
7th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2023, İstanbul, Turkey, 25 - 27 October 2023, pp.26
- III. **Design of an Apparatus for Measuring Capillary Refill Time**
Aksa H. C., Küçük A. O., Toygar U., Uşun A., Çava K., Hacıoğlu Ş.
4th Baskent International Conference On Multidisciplinary Studies, Ankara, Turkey, 4 - 06 August 2023, pp.1-7
- IV. **The Effect of Printing Parameters on Mechanical Properties In Pla Materials Produced By FDM Method**
Çamtekne A. H., Vatandaş B. B., Uşun A., Gümrük R.
4th Baskent International Conference On Multidisciplinary Studies, Ankara, Turkey, 4 - 06 August 2023, pp.1-10
- V. **Cabinet Design For Additive Manufacturing Under Vacuum Effect With FDM-Type Printers**
Vatandaş B. B., Uşun A., Gümrük R.
6. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 25 February - 26 March 2023, pp.216-222
- VI. **Improving the Mechanical Properties of Continuous Fiber Reinforced Thermoplastic Composites Manufactured by FDM Method with Fiber Ratio Optimization**
Uşun A., Vatandaş B. B., Gümrük R.
6. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 25 February - 26 March 2023, pp.223-231
- VII. **Investigating The Reflective Performance of Micro Cellular Foam Based High-Performance Diffusive Reflectors**
Gümrük R., Uşun A., Kuleyin H.
3. INTERNATIONAL DİCLE SCIENTIFIC RESEARCH AND INNOVATION CONGRESS, Diyarbakır, Turkey, 26 - 27 November 2022, pp.1672-1682
- VIII. **Effect of printing speed on mechanical properties of continuous fiber reinforced thermoplastic composites**
Vatandaş B. B., Uşun A., Gümrük R.
3. INTERNATIONAL DİCLE SCIENTIFIC RESEARCH AND INNOVATION CONGRESS, Diyarbakır, Turkey, 26 - 27 November 2022, pp.1552-1561
- IX. **The Effect of Peek Polymer and Carbon Fiber Interface Interaction on the Mechanical Behavior of Additively Manufactured Continuous Fiber Reinforced Composites**
Vatandaş B. B., Uşun A., Gümrük R.
4. INTERNATIONAL GÖBEKLİTEPE SCIENTIFIC RESEARCH CONGRESS, Şanlıurfa, Turkey, 7 - 08 October 2022, pp.1043-1050
- X. **Obtaining High Mechanical Properties Polyamide - Continuous Carbon Fiber Reinforced Thermoplastic Composites with Infrared Heating**
Nergün M., Önel N., Vatandaş B. B., Uşun A., Gümrük R.

1 ST INTERNATIONAL CONFERENCE ON ENGINEERING AND APPLIED NATURAL SCIENCES , Konya, Turkey, 10 - 13 May 2022, pp.2096

XI. Mechanical Properties of Additively Manufactured Hybrid Layered Continuous Carbon Fiber Reinforced Composites

Uşun A., Gümrük R.

5th International Webinar on Materials Science & Engineering, South Carolina, United States Of America, 4 - 05 April 2022

XII. Improving the Interlaminar Bonding Performance of Additively Manufactured Continuous Fiber Reinforced Thermoplastic Composites Using an Infrared Heat Source

Uşun A., Vatandaş B. B., Gümrük R.

2. ND INTERNATIONAL CONFERENCE ON APPLIED ENGINEERING AND NATURAL SCIENCES, Konya, Turkey, 10 - 13 March 2022, pp.462-466

XIII. Investigating of the Effects of Hot Isostatic Pressure Heat Treatment on Mechanical Properties of PLA Based BCC Lattices

Kuleyin H., Uşun A., Gümrük R.

5th International Conference on Engineering Technologies in Konya/TURKEY (ICENTE 2021), Konya, Turkey, 18 - 21 November 2021, pp.154

XIV. The Effect of Heat Treatments Applied to Continuous Fiber Reinforced Thermoplastic Composites on Mechanical Properties

Vatandaş B. B., Gümrük R., Uşun A., Yıldız N.

5th International Conference on Engineering Technologies (ICENTE 2021), Konya, Turkey, 18 - 21 November 2021, pp.154

XV. Examination of the Influence of Printing Parameters for the Continuous Carbon Fiber-Reinforced Thermoplastics Based on Fused Deposition Modeling

Uşun A., Gümrük R., Yıldız N., Vatandaş B. B.

The 3rd International Conference of Materials and Engineering Technology (TICMET21), Gaziantep, Turkey, 5 - 06 November 2021, pp.257

XVI. Additive Manufacturing of Continuous Fiber-Reinforced Composites with High Mechanical Properties From PLA Thermoplastic Resin by Fused Deposition Method

Gümrük R., Uşun A.

TICMET'20, Gaziantep, Turkey, 5 - 07 November 2020, pp.196-203

XVII. Enhancement of the mechanical performance of stainless steel micro lattice structures using electroless plated nickel coatings

Gümrük R., Uşun A., Mines R.

The Eighteenth International Conference of Experimental Mechanics, Brussels, Belgium, 1 - 05 July 2018, pp.494-499

Supported Projects

KORKMAZ F. M., UYGUN H. E., ASLAN M., UŞUN A., Project Supported by Higher Education Institutions, Farklı Altyapı Materyalleriyle Üretilmiş Subperiostal İmplant Destekli Farklı Tasarımdaki Hibrid Protezlerdeki Kuvvet Dağılımının Sonlu Elemanlar Analizi Yöntemi ile İncelenmesi, 2023 - Continues

KORKMAZ F. M., KESKİN B. E., ASLAN M., UŞUN A., Project Supported by Higher Education Institutions, Farklı implant-abutment bağlantı tipleri ile farklı materyallerden üretilen abutmentlerin doğal diş implant destekli sabit protezlerde stres dağılımının sonlu elemanlar analiz yöntemi ile incelenmesi, 2023 - Continues

ASLAN M., İPEK H., ÇAVA K., UŞUN A., DEMİRCİ M. A., Project Supported by Higher Education Institutions, Hidroksiapatit Hap Takviyeli Fotopolimer reçine ile 3 Boyutlu Preoperatif Kemik Model Üretimi ve Mekanik Özelliklerinin İncelenmesi, 2022 - Continues

GÜMRÜK R., ÇUVALCI H., CORA Ö. N., VAROL T., ASLAN M., UZUNALI U. Y., UŞUN A., ÇAVA K., KULEYİN H., Project Supported by Higher Education Institutions, Sürekli Elyaf Takviyeli Termoplastik Kompozitlerin Üretim Parametrelerinin

Malzemelerin Yorulma Davranışına Etkisinin İncelenmesi, 2021 - Continues

Aslan M., Gümrük R., Uşun A., Şimşek C., İpek H., Özkutlu Demirel M., TUBITAK Project, Eklemeli İmalat ile Dokuma Kumaş Takviyeli Sandviç Kompozit Panellerin Üretimi Ve Yapısal Mekanik Özelliklerinin Geliştirilmesi, 2024 - 2027

Gümrük R., Vatandaş B. B., Uşun A., Project Supported by Higher Education Institutions, Sürekli Elyaf Takviyeli Termoplastik Kompozit Parçaların Vakum Ortamında Katmanlı İmalatı, 2023 - 2025

Uşun A., Çava K., İpek H., Akça H. C., Aslan M., TUBITAK Project, Dental Uygulamalarda Dijitalleşme ve Eklemeli Üretim Yöntemlerinin Uygulamalı Eğitimi-2, 2024 - 2024

Gümrük R., Uşun A., Project Supported by Higher Education Institutions, Yüksek Mekanik Özelliklere Sahip Sürekli Elyaf Takviyeli Termoplastik Kompozitlerin Ergiyik Yığılma Yöntemi ile İmalatı, 2023 - 2024

Aslan M., Küçük A. O., İpek H., Uşun A., Pehlivanlar Küçük M., Çava K., Başer O., Project Supported by Higher Education Institutions, Yeniden kullanılabilir ergonomik video kameralı laringoskop tasarım ve üretimi, 2023 - 2024

İpek H., Aslan M., Çava K., Uşun A., Akça H. C., Topal T., Sümbül S. E., Berk İ., Aslan A., Alver Ü., et al., TUBITAK Project, 3 Boyutlu Eklemeli İmalat Yöntemleri Uygulamalı Eğitimi-II, 2023 - 2023

İpek H., Akça H. C., Çava K., Aslan M., Uzunali U. Y., Uşun A., Sümbül S. E., Aslan A., Berk İ., Alver Ü., et al., TUBITAK Project, 3 Boyutlu Eklemeli İmalat Yöntemleri Uygulamalı Eğitimi, 2023 - 2023

Gümrük R., Cora Ö. N., Aslan M., Şimşek C., TUBITAK Project, Eriyik Yığılma Yöntemini Esas Alan Üç Boyutlu Yazıcı Teknolojisi İle Yüksek Mekanik Özelliklere Sahip Sürekli Elyaf Takviyeli Termoplastik Kompozit Malzeme Üretimi, 2021 - 2023

Gümrük R., Uşun A., Project Supported by Higher Education Institutions, Üç Boyutlu Yazıcı Kullanılarak Yüksek Mukavemetli Sürekli Elyaf Takviyeli Termoplastik Kompozitlerin Üretilmesi , 2020 - 2022

ŞİMŞEK C., GÜMRÜK R., UŞUN A., Project Supported by Higher Education Institutions, 3B Yazıcılarda sürekli elyaf takviyeli kompozit baskı yapabilen ekstrüder, 2019 - 2021

GÜMRÜK R., UŞUN A., Project Supported by Higher Education Institutions, Katkılı Mikro Hücresel Kompozit Basabilen 3B Yazıcı Ekstrüder, 2018 - 2021

Gümrük R., Uşun A., Kuleyin H., TUBITAK Project, Yüksek Performanslı Difüzif Reflektör İmalatı, 2018 - 2019

Patent

Çava K., Çuvalcı H., Aslan M., İpek H., Uşun A., A Device for Producing Fiber-Reinforced Composites Using Photopolymer Resin and a Method for Producing Fiber- Reinforced Composites Using Photopolymer Resin, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: PCT/TR2023/050768 , Standard Registration, 2023

Cinel A., İpek H., Aslan M., Uşun A., Çava K., Akça H. C., Auxiliary Apparatus for Suturing in Abdominal Surgery, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: 2023/004504 , Standard Registration, 2023

Kapiller Yeniden Dolum Süresinin (CRT) Dinamik Bir Şekilde Ölçülmesini Sağlayan Cihaz, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: 2023/017187 , Standard Registration, 2023

Gümrük R., Uşun A., Katkılı mikro hücresel kompozit basabilen 3b yazıcı ekstrüder, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2018 17017 , Standard Registration, 2022

Çava K., Çuvalcı H., Uşun A., İpek H., Aslan M., Fotopolimer reçine kullanılarak elyaf takviyeli kompozit üretim cihazı ve fotopolimer reçine kullanılarak elyaf takviyeli kompozit üretim yöntemi, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: 2022/018781 , Standard Registration, 2022

Cinel A., Aslan M., İpek H., Uşun A., Çava K., Cerrahi Operasyonlar için Çok Amaçlı Ekartör Tutucu Aparat, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2022/016858 , Standard Registration, 2022

Şimşek C., Gümrük R., Uşun A., 3B yazıcılarda sürekli elyaf takviyeli termoplastik kompozit baskı yapabilen bir ekstrüder, Utility Model, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: TR 2019 04093 U5 , Standard Registration, 2021

Activities in Scientific Journals

Annals of Applied Sciences, Editor, 2021 - Continues

Memberships / Tasks in Scientific Organizations

CA22143 - European Materials Informatics Network (EuMiNe), Member, 2024 - Continues, Italy

CA22170 - Tendon Regeneration Network (TENET), Member, 2024 - Continues, Austria

CA22132 - Open Network on DEM Simulations (ON-DEM), Member, 2023 - Continues, England

CA21155 Advanced Composites under High STRain raTEs loading: a route to certification-by-analysis , Member, 2023 - Continues, Belgium

Scientific Refereeing

International Journal of 3D Printing Technologies and Digital Industry, Other Indexed Journal, April 2024

International Journal of Automotive Science and Technology, National Scientific Refreed Journal, January 2024

Progress in Additive Manufacturing, Journal Indexed in ESCI, January 2024

Materials Science in Additive Manufacturing, National Scientific Refreed Journal, November 2023

Progress in Additive Manufacturing, Journal Indexed in ESCI, July 2023

3D Printing and Additive Manufacturing, SCI Journal, October 2022

The Journal of Achievements In Materials and Manufacturing Engineering, Other Indexed Journal, September 2021